



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,753	04/17/2001	Bobby J. Self	10003797-1	7380

7590 01/27/2004

AGILENT TECHNOLOGIES, INC.
Legal Department, 51U-PD
Intellectual Property Administration
P.O. Box 58043
Santa Clara, CA 95052-8043

EXAMINER

LEON, EDWIN A

ART UNIT	PAPER NUMBER
----------	--------------

2833

DATE MAILED: 01/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/836,753

Applicant(s)

SELF ET AL.

Examiner

Edwin A. León

Art Unit

2833

PW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-9, 11-12 and 14-15 is/are rejected.
- 7) ☒ Claim(s) 4, 10 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's Response filed September 12, 2003 has been placed of record in the file as Paper No. 13.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-9, 11-12, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hudson, Jr. (U.S. Patent No. 4,087,146) in view of Leman (U.S. Patent No. 6,261,104) and Webster et al. (U.S. Patent No. 5,692,911). With regard to Claim 1, Hudson, Jr. discloses an electrical connection structure for terminating an electrical signal wire (44) and electrically coupling the electrical signal wire (44) to a target circuit board (12), comprising: an electrical circuit substrate (Fig. 1, substrate to which 44 is connected) to which the electrical signal wire (44) is coupled, the electrical circuit substrate (Fig. 1, substrate to which 44 is connected) having a proximate end being coupled to the target circuit board (12), the electrical circuit substrate (Fig. 1,

Art Unit: 2833

substrate to which 44 is connected) being substantially perpendicular to the target circuit board (12); and a termination circuit (end of 44, 28, 30, 50) mounted substantially at the proximate end of the electrical circuit substrate (Fig. 1, substrate to which 44 is connected), the termination circuit (end of 44, 28, 30, 50) being electrically coupled to the electrical signal wire (44) and the target circuit board (12). See Fig. 1.

However, Hudson, Jr. does not show the termination circuit configured to limit the signal reflections on the electric signal wire.

Leman discloses the use of a termination circuit configured to limit the signal reflections. See Column 5, Lines 38-45.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the connection structure of Hudson, Jr. by having the termination circuit being configured to limit the signal reflections as taught in Leman in order to pass the electrical signals more effectively in the structure.

Still, the combination of Hudson, Jr. and Leman does not show the electrical circuit substrate being coupled via solder to the target circuit board.

Webster et al. discloses a similar connector using solder to fix a test fixture to a target circuit. See Figs. 1-2 and Abstract, Lines 5-7.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the connection structure of Hudson, Jr. and Leman by using solder as taught in Webster et al. since it is well known in the art of electrical connectors that solder can provide a more secure and firm connection between the parts of an assembly.

Art Unit: 2833

With regard to Claim 2, Hudson, Jr. discloses the electrical circuit substrate (Fig. 1, substrate to which 44 is connected) being a rigid circuit board (Fig. 1, substrate to which 44 is connected). See Fig. 1.

With regard to Claim 3, Hudson, Jr. discloses a guide pin (42) connected to the rigid circuit board (Fig. 1, substrate to which 44 is connected), the guide pin (42) protruding through a corresponding alignment hole in the target circuit board (12). See Fig. 1.

With regard to Claim 5, Hudson, Jr. discloses the termination circuit (end of 44, 28, 30, 50) comprises an active electrical component. See Fig. 1.

With regard to Claim 6, Hudson, Jr. discloses at least one electrical signal wire (44) may be connected to either side of the rigid circuit board (Fig. 1, substrate to which 44 is connected). See Fig. 1.

With regard to Claim 7, Hudson, Jr. discloses the electrical signal wire (44) being a coaxial signal wire (44) having a shield electrically coupled to the rigid circuit board (Fig. 1, substrate to which 44 is connected). See Fig. 1.

With regard to Claim 9, Hudson, Jr. discloses the electrical circuit substrate (Fig. 1, substrate to which 44 is connected) being a flex circuit (Fig. 1, substrate to which 44 is connected). See Fig. 1.

With regard to Claim 11, Hudson, Jr. discloses a socket (10) connected to the flex circuit (Fig. 1, substrate to which 44 is connected). See Fig. 1.

Art Unit: 2833

With regard to Claim 12, Hudson, Jr. discloses a guide pin (42) connected to the flex circuit (Fig. 1, substrate to which 44 is connected), the guide pin (42) protruding through a corresponding alignment hole in the target circuit board (12). See Fig. 1.

With regard to Claim 14, Hudson, Jr. discloses the termination circuit (end of 44, 28, 30, 50) comprising an active electrical component. See Fig. 1.

With regard to Claim 15, Hudson, Jr. discloses the flex circuit (Fig. 1, substrate to which 44 is connected) being a rigidized flex circuit (Fig. 1, substrate to which 44 is connected). See Fig. 1.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hudson, Jr. (U.S. Patent No. 4,087,146) in view of Leman (U.S. Patent No. 6,261,104), Webster et al. (U.S. Patent No. 5,692,911) and Applicant's admitted prior art. The combination of Hudson, Jr., Leman and Webster et al. disclose the claimed invention except for a protective cover that at least partially encloses the rigid circuit board.

Applicant's admitted prior art discloses a connection structure having a protective cover (130) that encloses a rigid circuit board (40). See Figs. 1-2.

Thus, it would have been obvious to one with ordinary skill in the art to modify the connector of Hudson, Jr., Leman and Webster et al. by including a protective cover as taught in Applicant's admitted prior art to protect the circuit board and the connections against possible damage.

Allowable Subject Matter

5. Claims 4, 10, and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The references fail to teach, disclose, or suggest, either alone or in combination, the termination circuit comprising at least two stacked passive electrical surface-mount components, a rigid board attached alongside the flex circuit at the proximate end opposite the side of the flex circuit where the termination circuit is mounted and in combination with the rest of the limitations in the base and intermediate claims.

Response to Arguments

6. Applicant's arguments filed September 12, 2003 have been fully considered but they are not persuasive. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to Applicant's arguments that the combination of Hudson, Jr. and Leman doesn't show the electrical circuit substrate being coupled via solder to the target

Art Unit: 2833

circuit board, it is the Examiner's opinion that this feature is not a patentable feature since any one of ordinary skill in the art would modify the connection structure of Hudson, Jr. and Leman by using solder as taught in Webster et al. since it is well known in the art of electrical connectors that solder can provide a more secure and firm connection between the parts of an assembly.

In response to Applicant's argument that the combination of Hudson and Leman does not show the electrical circuit substrate having no connector at the proximate end, Applicant misinterprets the principle that claims are interpreted in the light of the specification. Although this element is found as an example or embodiment in the specification, it was not claimed explicitly. Nor were the words that are used in the claims defined in the specification to require this limitation. A reading of the specification provides no evidence to indicate that this limitation must be imported into the claims to give meaning to disputed terms. *Constant v. Advanced Micro-Devices Inc.*, 7 USPQ2d 1064.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edwin A. León whose telephone number is (703) 308-6253. The examiner can normally be reached on Monday - Friday 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on (703) 308-2319. The fax phone

Art Unit: 2833

number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Edwin A. Leon

Edwin A. Leon
AU 2833

EAL
January 15, 2004